User conference

- INVESTMENT ANALYST'S VIEW OF IBM
  - RETURN ON ASSETS
  - DATA PROCESSING EQUIPMENT REVENUE GROWTH (U.S. vs. OVERSEAS)
  - GROWTH OF CENTRAL PROCESSOR AND PERIPHERALS REVENUES
  - SHIPMENTS AND EDP SALES

- IBM'S COST STRUCTURE COMPARED TO COMPETITION
  - SUPERIOR GROSS MARGINS
  - HIGHER QUALITY MARKETING AND SERVICE
  - STRONGER RESEARCH AND DEVELOPMENT
  - HIGHER OPERATING MARGIN

- ACCELERATED USE OF ADVANCED TECHNOLOGY

- PURCHASE-ORIENTED PRICING
  - PURCHASE VERSUS RENT/LEASE PRICING PATTERNS
  - TWEAKING DEMAND ELASTICITY THROUGH PRICING

- HARDWARE VERSUS SOFTWARE PRICING
  - HARDWARE BECOMING A QUASI-COMMODITY
  - SOFTWARE AND MARKETING WILL REPRESENT REAL ADDED VALUE

- RESIDUAL VALUE -- A KEY TO THE PURCHASE VERSUS LEASE DECISION

- A NEED FOR THE H SERIES
  - PRICE/PERFORMANCE GAP AT THE HIGH END
  - PCM AND JAPANESE COMPETITION

- IBM'S EMERGING ROLE IN THE INTEGRATED OFFICE SYSTEMS MARKET
  - PRICE PERFORMANCE/FUNCTION COMPARISONS

- THE BUSINESS CASE OF OFFICE AUTOMATION
  - OFFICE COSTS -- CLERICAL VERSUS KNOWLEDGE WORKERS
  - COST/BENEFIT ANALYSIS

- OFFICE-OF-THE-FUTURE MARKET POTENTIAL

UNDERVIEW - OFFICE AUTOMATION - OFFICE OF THE FUTURE

A. INTRODUCTION
   1. Personal Background
   2. Why an Underview?

B. TERMINOLOGY
   1. Definition of an Office
   2. Office Automation, Paperless Office, Electronic Office
   3. Office of The Future

C. CURRENT ENVIRONMENT
   1. Costs, Workforce, Statistics
   2. Problems
   3. Potential Solution

D. OFFICE INFORMATION SYSTEMS APPROACH

   1. Study, Identify Opportunities and Potential Savings
   2. Identification of Components
   3. Systems Requirements

E. OFFICE INFORMATION SYSTEMS DESIGN

1. Functional Requirements
   a. Document Creation
   b. Document Capture
   c. Distribution and receipt
   d. Copy, duplication, and publication
   e. Search and retrieval
   f. Format and output
   g. System services
   h. Personal services

F. HOW WE USE OFFICE INFORMATION SYSTEM COMPONENTS

1. Typical day

G. CONSIDERATIONS AND SUMMARY

1. Potential role of EDP
2. Summary

DEFINITION OF AN OFFICE

AN OFFICE IS:

PEOPLE..... PRINCIPALS, MANAGERS, PROFESSIONALS, SECRETARIAL AND CLERICAL PERSONNEL

OPERATING WITH THE AID OF:

EQUIPMENT..... TYPEWRITERS, TELEPHONES, CALCULATORS COPIERS, COMPUTERS, DICTATION ETC.

TO HANDLE:

INFORMATION..... TEXT, GRAPHICS, VOICE, DATA, IMAGES

IN ORDER TO COMPLETE A:

PROCESS..... CREATE, COMMUNICATE, FILE, RETRIEVE MANIPULATE, CALCULATE, MAIL, ETC.

THAT WILL SUPPORT:

BUSINESS OBJECTIVES..... PROFIT, PRODUCTIVITY, EFFECIENCY PERFORMANCE, SERVICE

OPPORTUNITY

- THERE IS SOME SPECULATION THAT OFFICE SYSTEMS WILL BE BIGGER THAN DATA PROCESSING IN 10 YEARS
  ....BUSINESS WEEK, JUNE 30, 1975

- SECRETARIAL SALARIES EXPECTED TO INCREASE 40 PERCENT BY 1980 - THE OFFICE, NOV. 1977

- CLERICAL EMPLOYMENT WILL REACH 20 MILLION BY 1985
  ....U.S. BUREAU OF LABOR STATISTICS

TERMINOLOGY

- OFFICE AUTOMATION
- OFFICE OF THE FUTURE
- PAPERLESS OFFICE
- ELECTRONIC OFFICE

IMPROVING AN OPERATION IN THE OFFICE BY MECHANIZING OR AUTOMATING THE PROCESS, BUT NOT REQUIRING A SYSTEMS CONSIDERATION IS BY OUR DEFINITION: OFFICE AUTOMATION

INTEGRATING SEVERAL INFORMATION SYSTEM COMPONENTS INTO A NETWORK OF INTERCONNECTED SYSTEMS IS: OFFICE OF THE FUTURE.

THE COMMON OBJECTIVE: IMPROVED OFFICE INFORMATION SYSTEMS

1980

U.S. BUSINESS EXPENDITURE TO SUPPORT OFFICE BASED WHITE COLLAR WORKERS, FILE CLERKS TO BOARDS OF DIRECTORS

$800 BILLION

MANAGERIAL AND OTHER PROFESSIONAL PORTION OF WHITE COLLAR EXPENSE

$600 BILLION

1990

FORCAST: DIRECT COSTS OF WHITE COLLAR OPERATIONS WITHOUT UTILIZATION OF INTEGRATED OFFICE INFORMATION SYSTEMS COULD RISE TO

$1.5 TRILLION

IMPLEMENTATION OF INTEGRATED INFORMATION SYSTEMS COULD REACH SAVINGS OF

$300 BILLION PER YEAR

SECRETARIAL POPULATION

1977	1985
3,529,000	4,786,000

INCREASE OF 50%

- IN 1978 THERE WAS A SHORTAGE OF 88,000 SECRETARIAL EMPLOYEES
- THERE ARE 439,000 NEW JOBS ANNUALLY
- REPRESENTS A SHORTAGE OF 700,000 QUALIFIED SECRETARIES BY 1985
- FEWER WOMEN GOING INTO THE SECRETARIAL ADMINISTRATIVE SUPPORT FIELD

SOURCE: BUREAU OF LABOR STATISTICS

AVERAGE ANNUAL SECRETARIAL SALARIES

1969	$ 6,400
1978	$10,000
1985	$15,600

SOURCE: BUREAU OF LABOR STATISTICS

PROBLEMS IN THE OFFICE

- RISING COSTS
- REDUNDANT ACTIVITIES
- INCREASING REQUIREMENTS
- GREATER NUMBERS OF PERSONNEL
- ARCHAIC TEXT CREATION
- INEFFECTIVE FILING SYSTEMS
- EXCESSIVE COMMUNICATIONS COSTS
- INACCESSIBLE INFORMATION
- INEFFICIENT DISTRIBUTION
- MANUAL FOLLOW-UP/CONTROLS
- INADEQUATE SECURITY
- POORLY DEFINED ENVIRONMENT
- OUTDATED PHONE AND MESSAGE SYSTEMS

THE OFFICE COST

LABOR	70 PERCENT
EQUIPMENT SPACE SUPPLIES	30 PERCENT

POTENTIAL SOLUTION

DELEGATE ROUTINE OFFICE TASKS TO TECHNOLOGY

WHY?

- COST OF TECHNOLOGY FALLING
- PREVIOUS SUCCESS IN OTHER INDUSTRIES
- MEASUREABLE RESULTS

COST OF TECHNOLOGY PER YEAR

COMMUNICATIONS	DOWN 11 PERCENT
COMPUTER LOGIC	DOWN 25 PERCENT
COMPUTER MEMORY	DOWN 40 PERCENT

SOURCE: DATAMATION

AVERAGE EXPENDITURES PER WORKER

FARM WORKER	$100,000
PRODUCTION WORKER	$ 24,000
OFFICE WORKER	$ 4,500

SOURCE: BUREAU OF LABOR STATISTICS

EXPENDITURES VS. PRODUCTIVITY

EXPENDITURES PER WORKER		PRODUCTIVITY 1967-1977
FARM WORKER	$100,000	UP 67 PERCENT
PRODUCTION WORKER	$ 24,000	UP 40 PERCENT
OFFICE WORKERS	$ 4,500	UP 4 PERCENT

SOURCE SRI

OFFICE SYSTEM APPROACH

- STUDY TO BETTER UNDERSTAND OFFICE INFORMATION SYSTEM REQUIREMENTS
- ESTABLISH AN OFFICE INFORMATION SYSTEM STRATEGY
- TEST SOLUTION FEASIBILITY THROUGH PILOTS
- EVOLVE TO AN INTEGRATION OF INFORMATION SYSTEMS THAT ARE:

  EASY TO USE
  RELIABLE
  FLEXIBLE
  SECURE
  CONTROLLED
  ECONOMICAL

TYPICAL OFFICE INFORMATION SYSTEM STUDY RESULTS

- UNEQUAL ADMINISTRATIVE WORKLOAD
- EXCESSIVE INFORMATION "FLOAT"
- DUPLICATE AND REDUNDANT FILES
- ARCHAIC INPUT FOR TEXT CREATION
- INCOMPLETE AND INACCURATE INFORMATION
- EXCESSIVE COMMUNICATIONS COSTS
- INCOMPLETE OR UNAVAILABLE RETRIEVAL
- REDUNDANT AND NON-PRODUCTIVE ACTIVITIES

OPPORTUNITY

- MAKE AN IMPACT ON PROFESSIONAL EFFECTIVENESS
- IMPROVE QUALITY AND ACCURACY OF INFORMATION
- PROVIDE INFORMATION MORE RAPIDLY
- OFFER INFORMATION IN BETTER AND MORE USABLE FORM
- IMPROVE MANAGERIAL DECISION-MAKING

OFFICE SYSTEMS APPROACH

POTENTIAL SAVINGS

- SECRETARIAL/CLERICAL
  - ELIMINATE TASKS
  - IMPROVE DISTRIBUTION
  - REDUCE FILING/RETRIEVAL
  - IMPROVE DOCUMENT CREATION
- MATERIALS
  - ELIMINATION OF UNNECESSARY PAPER
- SPACE
  - REDUCE SPACE TO HOUSE PEOPLE AND INFORMATION
- SERVICES
  - POSTAL
  - COMMUNICATIONS
  - OUTSIDE SERVICES
- PRINCIPAL/MANAGER/PROFESSIONAL
  - IMPROVED TIMELINESS
  - BETTER QUALITY
  - INCREASED PRODUCTIVITY
  - OFF-LOAD UNNECESSARY ADMINISTRATIVE TASKS

OFFICE INFORMATION SYSTEM COMPONENTS

- TEXT CAPTURE, AND TEXT EDITING SYSTEMS
- DOCUMENT FILING AND RETRIEVAL SYSTEMS
- DATA PROCESSING
- TELEPHONE AND MESSAGE
- DOCUMENT CONTROL
- ELECTRONIC DOCUMENT DISTRIBUTION
- COPYING AND DUPLICATION
- TELECONFERENCING
- DICTATION SYSTEMS
- FOLLOW-UP AND REMINDER SYSTEMS
- CALENDARING AND SCHEDULING
- INTERACTIVE PROBLEM SOLVING
- IN-HOUSE COMPOSITION, PRINTING AND PUBLISHING

OFFICE INFORMATION SYSTEM DESIGN OBJECTIVES

- SPEED COMMUNICATIONS
- IMPROVE ORGANIZATIONAL PRODUCTIVITY
- SIMPLIFY DOCUMENT PREPARATION
- PROVIDE "TIME" MANAGEMENT
- ENCOURAGE CREATIVITY
- MAINTAIN INDIVIDUALITY
- IMPROVE ACCESS TO INFORMATION
- ENHANCE DISTRIBUTION
- PROVIDE SECURITY
- USER ORIENTED

PRELIMINARY SYSTEM CHARACTERISTICS

- DISTRIBUTED SUBSYSTEM
  - FAST RESPONSE
  - HIGH AVAILABILITY
  - VISIBLE RESULTS
  - DEPARTMENTAL CONTROL
- HOST ATTACHMENT
  - ELECTRONIC DISTRIBUTION - NOT ELECTRONIC MAIL
  - CENTRALIZED STORAGE AND RETRIEVAL
  - DB/DC INTERFACE
  - USER DEVELOPED PROGRAMS
  - ADVANCE FORMATTING

OFFICE INFORMATION SYSTEM FUNCTIONAL REQUIREMENTS

- DOCUMENT CREATION
- DOCUMENT CAPTURE
- DISTRIBUTION AND RECEIPT
- COPY, DUPLICATION AND PUBLICATION
- SEARCH AND RETRIEVAL
- FORMAT AND OUTPUT
- SYSTEM SERVICES
- PERSONAL SERVICES

OFFICE INFORMATION SYSTEMS

CONSIDERATIONS:

- WE KNOW HOW TO MANAGE
  - MONEY
  - RAW MATERIALS
  - FINISHED PRODUCTS
  - PRODUCTION TOOLS
- WE DON"T MANAGE INFORMATION EFFECTIVELY

OFFICE INFORMATION SYSTEMS

INFORMATION:

- NOT SUSCEPTIBLE TO ACCOUNTING
- NO COST CONTROL
- WIDE VARIETY
- DISPROPORTIONATE PERSONNEL COSTS (88%)
- A GROWING REQUIREMENT

OFFICE INFORMATION SYSTEM

CONSIDERATIONS:

- INFORMATION SYSTEM MUST FACILITATE:

  - INFORMATION GENERATION
  - INFORMATION MAINTENANCE
  - OVERALL COMMUNICATION

OFFICE INFORMATION SYSTEM

CONSIDERATIONS:

- INFORMATION SYSTEM MUST BE:
  - RELEVANT
  - TIMELY
  - ACCURATE
  - COMPLETE
  - AVAILABLE
  - USABLE